

REMARKS

Claims 1-9 are now pending, with claim 1 being the sole independent claim. Claim 3 has been canceled. Claims 1-8 have been amended, where claim 1 has been amended to incorporate the subject matter of canceled claim 3. Claim 9 has been added. The amendments to claims 2 and, 4-8 are to correct minor claim wording, and are cosmetic in nature. No new matter has been added. Reconsideration of the application, as amended, is respectfully requested.

The Examiner has objected to the Oath/Declaration. Specifically, the Examiner has stated that the "oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02".

With respect to the foregoing, Applicant respectfully asserts that the Declaration filed on March 27, 2002 in response to the February 28, 2002 Notice to File Missing Part is not defective. A copy of the Declaration and the stamped return receipt postcard evidencing receipt of the executed Declaration by the USPTO is attached herewith. With respect to the executed Declaration (pg. 1) states:

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention claimed.

Moreover, the Declaration (pg. 1) also states:

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

Lastly, Applicant has reviewed MPEP §§ 602.01 and 602.02. However, Applicant can locate no requirement that the Declaration is required to have a ribbon attached. Withdrawal of the objection to the Declaration is therefore in order.

In the June 26, 2006 Office Action, independent claim 1, and dependent claims 2-8 were rejected under 35 U.S.C. §102(b) as clearly anticipated by U.S. Patent No. 6,918,035 ("*Patel*"). For the following reasons, it is respectfully submitted that all claims of the present application are patentable over the cited reference.

The claimed invention relates to a method for checking the integrity of messages between a mobile station and a cellular network. In accordance with the claimed invention, two time-varying parameters are used in a MAC calculation, one of which is generated by the mobile station

and the other by the network. The parameter specified by the network is used in only one session, and is transmitted to the mobile station at the beginning of the connection. On the other hand, the parameter specified by the mobile station is stored in the mobile station between connections in order to allow the mobile station to use a different parameter in the next connection. The parameter specified by the mobile station is transmitted to the network in the beginning of the connection (see pg. 3, lines 27 thru pg. 4, line 4 of the specification).

In contrast, *Patel* relates to a method for authenticating parties communicating with one another, a method for authenticating a mobile and a network in wireless communication and to a key agreement based on the authentication protocol (see col. 1, lines 28-33).

The Office Action (pg. 2 thru 3) states:

[Patel] teach a method for two part authentication and key agreement comprising: a first and second party (figs. 1-3, vlr and mobile), calculating an authentication message (mac), a first value, by a first party being valid for one connection only, a counter value by a second party, a cellular telecommunication network, mobile station, the authentication value of a message based upon a second value specified by a first party/agreed upon parameters, a second pseudo random value, an initial value for counter, producing a third value/session key or Hmac, a radio network controller (Ac/Hlr), see (entire document particularly figs. 1-3, col. 1, lines 27-31 and 59-65 et seq., col. 2, lines 1-65 et seq., col. 3, lines 5-10, and 25-47 et seq., col. 4, lines 9-15, and 25-42 et seq., and col. 2, lines 5-7). As per the SIM card [Patel] teach that an A-key is stored in the mobile (col. 2, lines 5-7). It is inherent that the mobile has a card for storing the identification and authentication information, and this storage device is commonly term a SIM card.

With respect to the foregoing, however, Applicant respectfully asserts that *Patel* fails to teach the method recited in independent claim 1. In particular, *Patel* (col. 1, lines 57-59; Fig. 1) teaches a wireless system including an authentication center (AC) and a home location register (HLR) 10, a visiting location register (VLR) 15 and a mobile 20. *Patel* (col. 2, lines 6-7) states, “a root key, known as the A-key, is stored only in the AC/HLR 10 and the mobile 20”. However, these sections of *Patel* fail to teach the steps recited in amended independent method claim 1.

Patel (col. 3, lines 27-29) states that “in a two party authentication method ... a first party issues a random number as a first challenge, and a second party responds with a first challenge response”. *Patel* (col. 3, lines 29-31) states, “the first challenge response is generated by performing a keyed cryptographic function (KCF) on the first challenge and a count value using

a first key”. *Patel* (col. 3, lines 31-33) states, “the second party increments the count value upon receipt of the first challenge, and uses the count value as a second challenge. *Patel* (col. 3, lines 33-36) further states, “the first party verifies the second party based on the first challenge and receipt of the second challenge and the first challenge response”.

Patel (col. 3, lines 36-43) states that “after verification, the first party performs the KCF on the second challenge using the first key to generate a second challenge response. Based on the second challenge and receipt of the second challenge response, the second party verifies the first party. Using the first and second challenges, an encryption key is generated by both parties. In this manner, a different key, the first key, from the encryption key is used in answering challenges”. *Patel* thus teaches authentication is achieved pursuant to back and forth challenges and answers.

However, independent method claim 1 recites, *inter alia*, the step of “comparing the calculated authentication value with the second authentication value to determine whether the authentication values match ... accepting the message if the authentication values match; where the authentication value is calculated based on the message, the first value specified by the first party and the counter value at least partly specified by the second party”. The process of *Patel* fails to teach at least these claimed limitations.

The claimed invention advantageously eliminates the need to maintain synchronized state information between different connections. That is, the method of amended independent claim 1 permits the elimination of the requirement for the network to store any counter information for affecting the integrity checking. Such a feature is a considerable advantage, because storage of such information would otherwise need to occur in a central register, such as the VLR (Visitor Location Register) or the HLR (Home Location Register). In accordance with these advantages, all state information about the connection can be discarded on the network side in a mobile network after the connection is released. Moreover, the claimed invention allows integrity checking to be performed by a network element outside the core network, such as the RNC in the case the UMTS cellular system. *Patel* fails to teach methods that capture such advantageous features, in the manner achieved by Applicant’s independent method claim 1. In view of the foregoing, amended independent claim 1 is patentable over *Patel*, reconsideration and withdrawal of the rejection under 35 U.S.C. §102(e) are requested, and a notice to that effect is earnestly solicited.

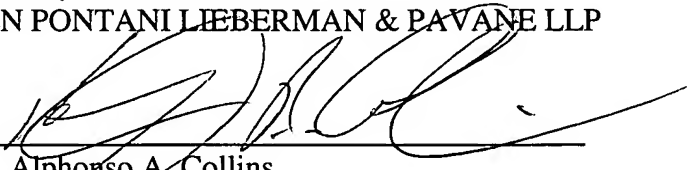
In view of the patentability of amended independent claim 1, for the reasons set forth above, dependent claims 2 and 4-8, as well as new dependent claim 9, are all patentable over the prior art.

Based on the foregoing amendments and remarks, this application is in condition for allowance. Early passage of this case to issue is respectfully requested.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
COHEN PONTANI LIEBERMAN & PAVANE LLP

By



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Dated: December 26, 2006



4925-158PUS

MCS//LMS 27 March 2002

In re National Phase PCT Application of
Valteri NIEMI et al.

Serial No.: 10/009,658

Filed: 30 October 2001

For: Integrity Protection Method For Radio Network
Signaling

By Express Mail No. EV072606885US with the following enclosures: X

1. Cover Letter (Due:) April 28 2002
2. Executed Declaration and Power of Attorney
3. Check for \$130.00 for late filing of the Declaration
4. Assignment
5. Recordation cover sheet - PTO Form 1595
6. Check for \$40.00 to cover the recordation fee
7. Copy of form PCT/DOEO/905
8. Return receipt postcard

KINDLY DATE STAMP AND RETURN
TO ACKNOWLEDGE RECEIPT

JC05 Rec'd PCT/PTO 27 MAR 2002

Attorney Docket # 4925-158PUS

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re National Phase PCT Application of

Valtteri NIEMI et al.

Serial No.: 10/009,658

Filed: 30 October 2001

For: Integrity Protection Method For Radio
Network Signaling

**RESPONSE TO NOTIFICATION OF MISSING REQUIREMENTS UNDER
35 U.S.C. 371 IN THE U.S. DESIGNATED/ELECTED OFFICE (DO/EO/US)**

BOX PCT

Assistant Commissioner for Patents
Washington, D.C. 20231

S I R:

In response to the Notification of Missing Requirements dated February 28, 2002,
applicants submit herewith the following:

- ☒ Executed Declaration and Power of Attorney
- ☒ Check in the amount of \$130.00 to cover the late filing of the declaration
- ☒ Assignment of the invention to **Nokia Corporation**
- ☒ Recordation cover sheet - PTO Form 1595
- ☒ Check in the amount of \$40.00 to cover the recordation fee
- ☒ Copy of form PCT/DOEO/905

If there are any additional fees that may be required at this time, the same may also
be charged to Deposit Account No. 03-2412.

Respectfully submitted,
COHEN, PONTANI, LIEBERMAN & PAVANE

By: _____

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Dated: 27 March 2002



UNITED STATES PATENT AND TRADEMARK OFFICE

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| | | |
|----------------------------|-----------------------|----------------|
| U.S. APPLICATION NUMBER NO | FIRST NAMED APPLICANT | ATTY DOCKETING |
| 10/009,658 | Valteri Niemi | 4925-158PUS |

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| INTERNATIONAL APPLICATION NO |
| PCT/F100/00421 |

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|----------------|---------------|
| 1A FILING DATE | PRIORITY DATE |
| 05/11/2000 | 05/11/1999 |

Michael C Stuart
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DOCKETED

CONFIRMATION NO. 8388

371 FORMALITIES LETTER



OC000000007522667

28 April 02

Date Mailed: 02/28/2002

NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as an Elected Office (37 CFR 1.495):

- U.S. Basic National Fees
- Priority Document
- Copy of IPE Report
- Copy of references cited in ISR
- Copy of the International Application
- Copy of the International Search Report
- Information Disclosure Statements
- Oath or Declaration
- Request for Immediate Examination

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date. The current oath or declaration does not comply with 37 CFR 1.497(a) and (b) in that it:
 - is not executed in accordance with either 37 CFR 1.66 or 37 CFR 1.68.
- \$130 Surcharge for providing the oath or declaration later than the appropriate 30 months from the priority date (37 CFR 1.492(e)) is required.

ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTH FROM THE DATE OF THIS NOTICE OR BY 22 or 32 MONTHS (where 37 CFR 1.495 applies) FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.

P04981080

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

SUMMARY OF FEES DUE:

Total additional fees required for this application is \$130 for a Large Entity:

- \$130 Late oath or declaration Surcharge.

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

VONDA M WALLACE

Telephone: (703) 305-3736

PART 1 - ATTORNEY/APPLICANT COPY

| U.S. APPLICATION NUMBER NO. | INTERNATIONAL APPLICATION NO | ATTY. DOCKET NO |
|-----------------------------|------------------------------|-----------------|
| 10/009,658 | PCT/F100/00421 | 4925-158PUS |

FORM PCT/DO/EO/905 (371 Formalities Notice)

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

INTEGRITY PROTECTION METHOD FOR RADIO NETWORK SIGNALING

the specification of which (check only one item below)

☐ is attached hereto

☐ was filed as United States application

Serial No. _

on _

and was amended

on _ (if applicable).

☒ was filed as PCT international application

Number PCT/FI00/00421

on 11 May 2000

and was amended under PCT Article 19

on _ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of the application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

PRIOR FOREIGN/PCT APPLICATIONS AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

| Country (if PCT, indicate "PCT") | Application Number | Date of Filing (day, month, year) | Priority Claimed Under 35 U.S.C. 119 | |
|-------------------------------------|-----------------------|--------------------------------------|---|-----------------------------|
| Finland | 991088 | 11 May 1999 | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| PCT | PCT/FI00/00421 | 11 May 2000 | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| | | | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| | | | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| | | | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| | | | <input type="checkbox"/> YES | <input type="checkbox"/> NO |
| | | | <input type="checkbox"/> YES | <input type="checkbox"/> NO |

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120:

| U.S. APPLICATIONS | | | STATUS (check one) | | |
|---------------------------------------|------------------|---------------------------------------|--------------------|---------|-----------|
| U.S. APPLICATION NUMBER | U.S. FILING DATE | | PATENTED | PENDING | ABANDONED |
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| PCT APPLICATIONS DESIGNATING THE U.S. | | | | | |
| PCT APPLICATION NO. | PCT FILING DATE | U.S. SERIAL NUMBERS ASSIGNED (if any) | | | |
| PCT/FI00/00421 | 11 May 2000 | | | x | |
| | | | | | |

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith (*List name and registration number*)
MYRON COHEN, Reg. No. 17,358; THOMAS C. PONTANI, Reg. No. 29,763; LANCE J. LIEBERMAN, Reg. No. 28,437; MARTIN B. PAVANE, Reg. No. 28,337; MICHAEL C. STUART, Reg. No. 35,698; KLAUS P. STOFFEL, Reg. No. 31,668; EDWARD M. WEISZ, Reg. No. 37,257; JULIA S. KIM, Reg. No. 36,567; VINCENT M. FAZZARI, Reg. No. 26,879; ALFRED W. FROEBRICH, Reg. No. 38,887; KENT H. CHENG, Reg. No. 33,849; ROGER S. THOMPSON, Reg. No. 29,594; F. BRICE FALLER, Reg. No. 29,532; YUNLING REN, Reg. No. 47,019; DAVID J. ROSENBLUM, Reg. No. 37,709; ELI WEISS, Reg. No. 17,765; TONY CHEN, Reg. No. 44,607.

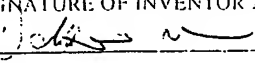
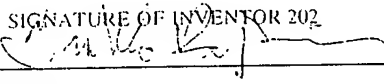
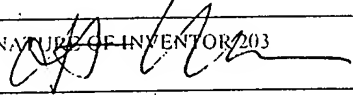
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Michael C. Stuart
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| 202 | FULL NAME OF INVENTOR | FAMILY NAME RAJANIEMI | FIRST GIVEN NAME Jaakko | SECOND GIVEN NAME |
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| | POST OFFICE ADDRESS | POST OFFICE ADDRESS Holperintie 39 | CITY Hirvihaara | STATE & ZIP CODE/COUNTRY FIN-04680 Finland |

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

| | | |
|--|--|--|
| SIGNATURE OF INVENTOR 201  | SIGNATURE OF INVENTOR 202  | SIGNATURE OF INVENTOR 203  |
| DATE 11/15/2001 | DATE 11/16/2001 | DATE 11/13/2001 |